

# HR series

## Proportional Hall effect thumbwheels

Distinctive features and specifications



- 5 million lifecycles (without detent)
- Sealed to IP68
- Backlighting option
- EMI/RFI shielding
- Detent options available
- Patented solution

### MECHANICAL

- Operating Force at center:  
2N±0.5N (without center detent)  
4N±0.5N (with center detent)
- Return spring to center
- Mechanical operating angle:  
±35° (versions S/G/L)  
±20° (version K)
- Mechanical Life: 5 million cycles (without detent)
- APEM SAS patented design

### ENVIRONMENTAL

- Operating Temperature: -30°C to +70°C (-22°F to +158°F)
- Storage Temperature: -40°C to +85°C (-40°F to +185°F)
- Sealing to IP68
- Shock resistance: 50g during 11ms
- Vibration resistance: 10-500Hz
- Salt spray: IEC 512-6, test 11f
- EMI/RF shielding: 100V/m, complies with IEC 61000-4-3 and ISO 11452-2
- ESD: Complies with 16KV EN 61000-4-2

### ELECTRICAL

- Sensor type: Hall effect
- Supply voltage: 5VDC ± 0.5V
- Reverse polarity: -10V max
- Overvoltage: +20V max
- Return to center voltage (no load): ±0.2V
- Consumption: 11 mA max (single output), 22mA max (dual output)
- LED supply: 6VDC 10mA

### MATERIALS

- Wheel: polyamide with coloring
- Support: polyamide, black
- Electronics sealing: epoxy
- Connector: polyester (Molex 0510210700)
- Multiwire lead: AWG28

#### NOTES:



Mounting accessories.  
Standard hardware includes: 2 self-tapping screws DELTA PT® 22x08 for plastic



**Notice:** Not all part number combinations may be available.  
Please refer to the following pages for further information.

**Packaging:** Product is available as 20 pieces per package.



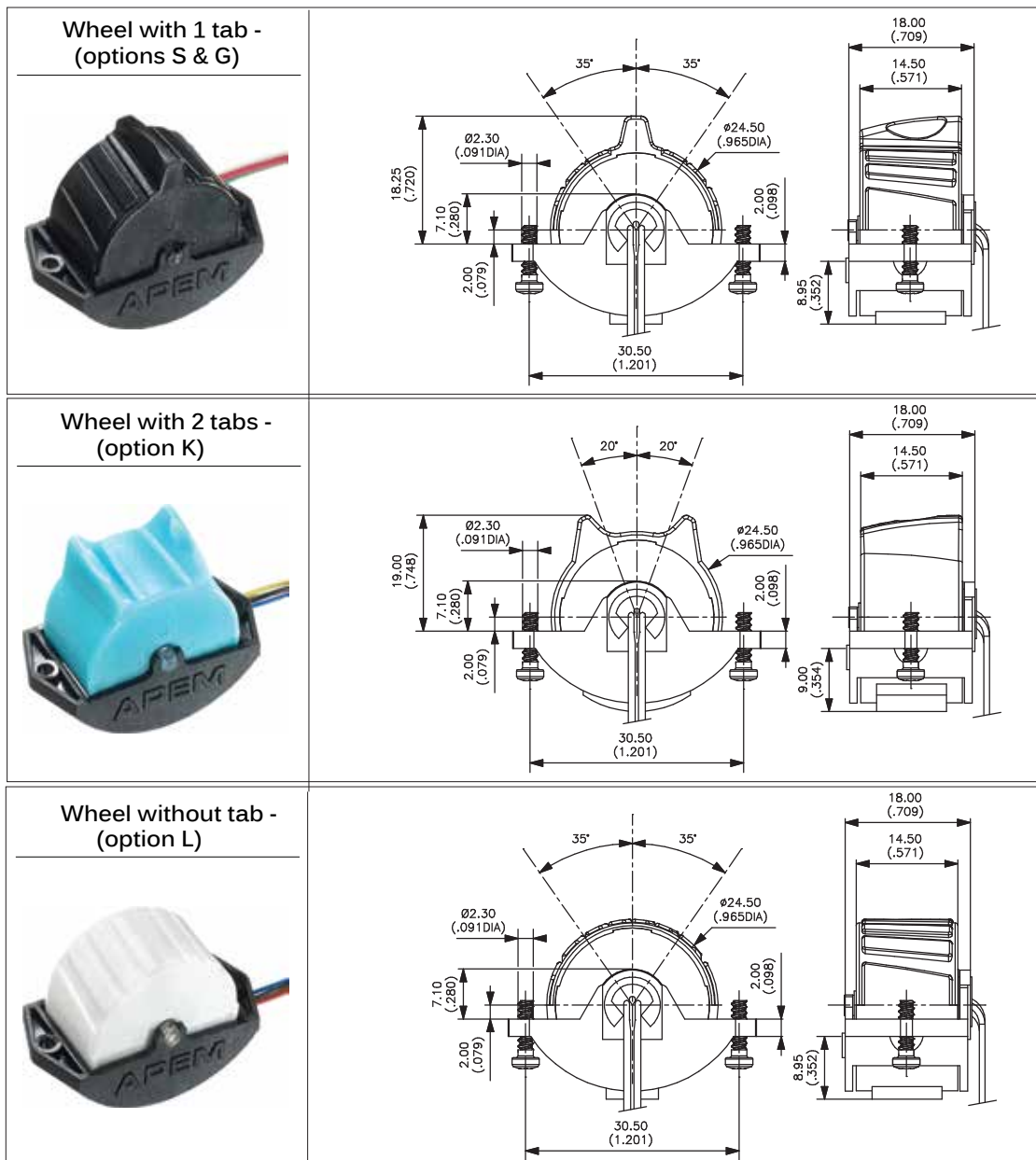
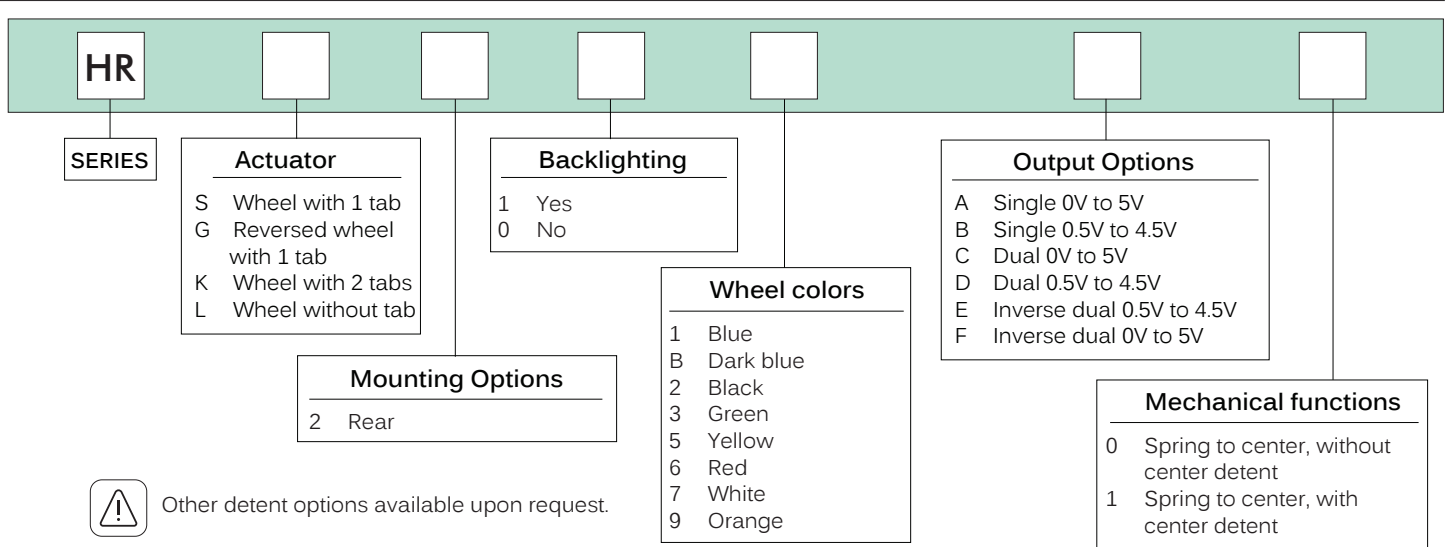
Tolerance: General tolerance for dimensions is ± 0.3 (.012).

Dimensions: First dimensions listed are in mm while inches are shown in brackets.

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Actuator options and dimensions



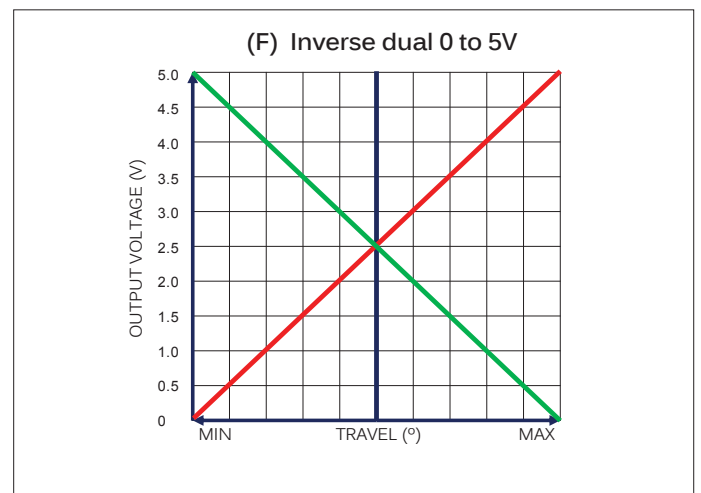
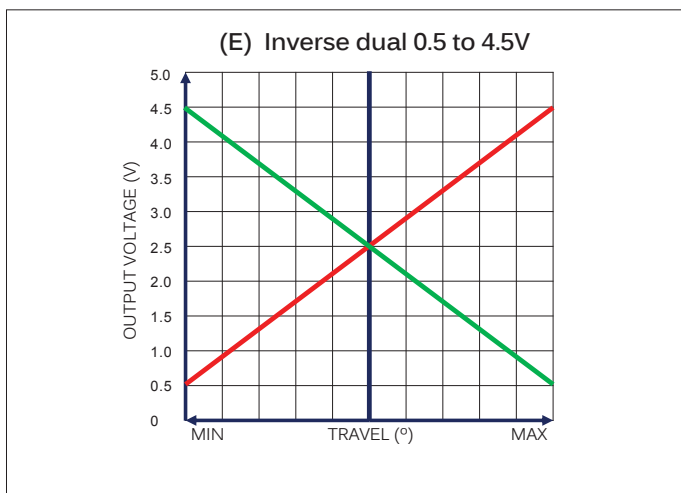
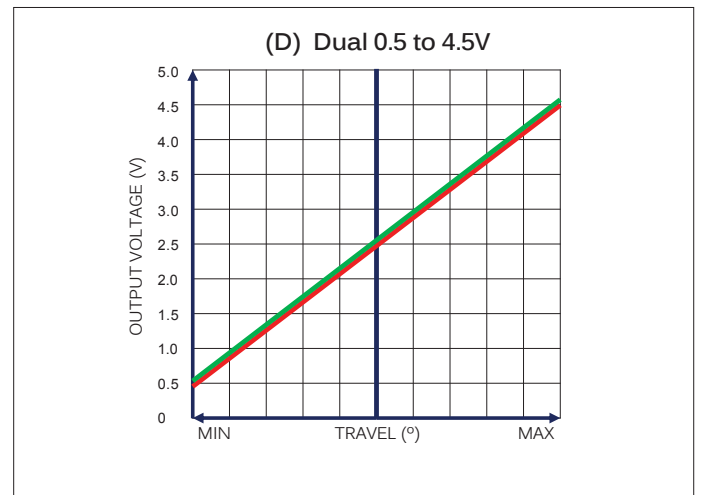
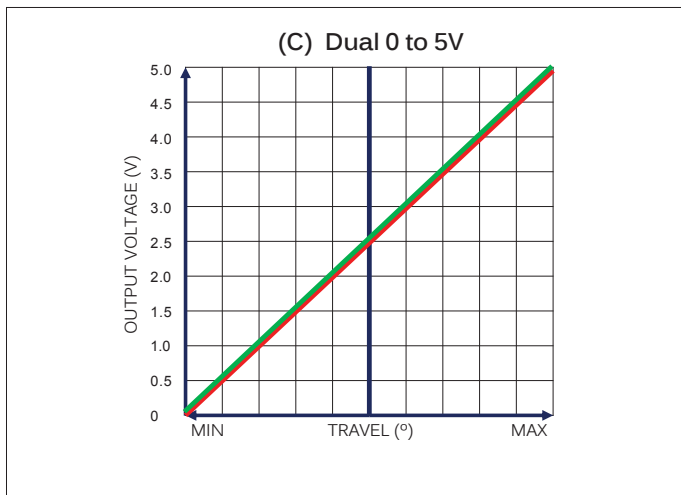
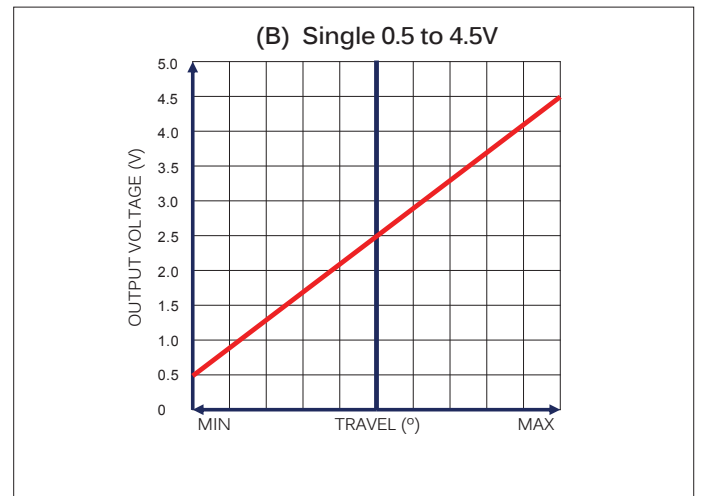
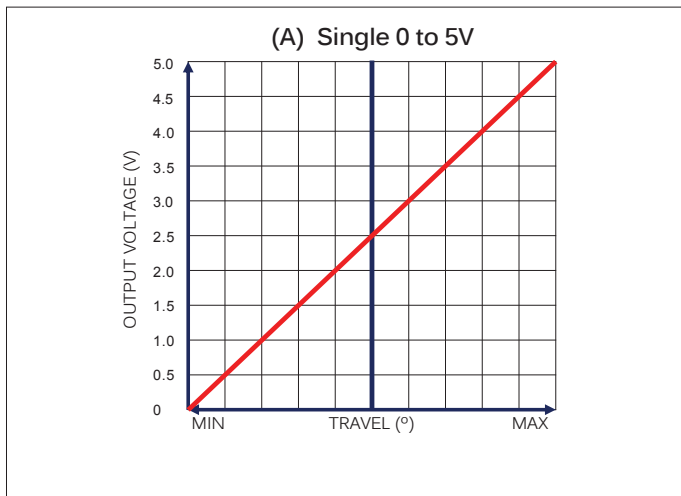
NOTE: Dimensions are in mm/(inch).

Note: The company reserves the right to change specifications without notice.

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Linear output options



— output 1  
— output 2

NOTE:

Output voltage cannot be superior to the power supply voltage. For 0 to 5V versions, the power supply should not be lower than 5V.

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## Proportional Hall effect thumbwheels

### Connections

#### Single output without backlighting

Pin	Function	Color
1		
2	Power supply: +VDC 5V	Red
3		
4		
5		
6	Output	
7	Ground 0V	Black

#### Single output with backlighting

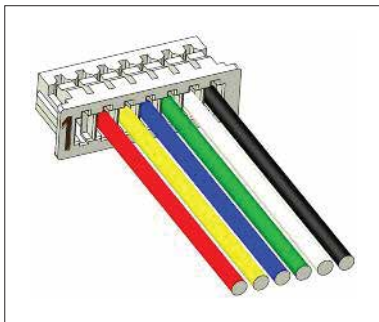
Pin	Function	Color
1		
2	Power supply: +VDC 5V	Red
3		
4		
5		
6	Output	
7	Ground 0V	Black

#### Dual output without backlighting

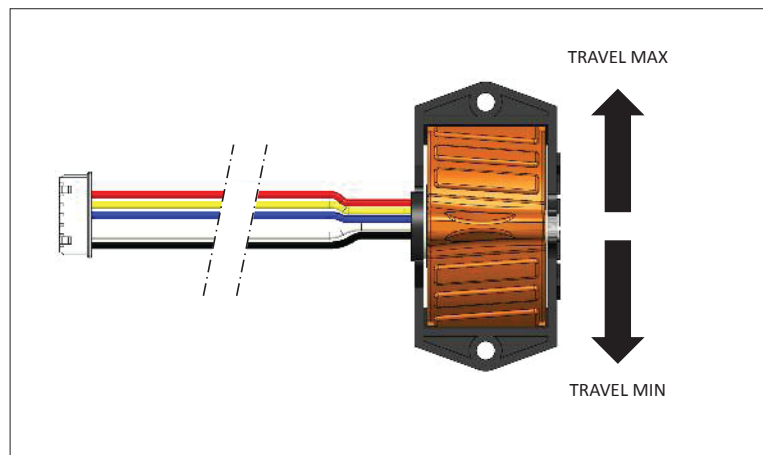
Pin	Function	Color
1		
2	Power supply: +VDC 5V	Red
3		
4		
5	Output 2	Green
6	Output 1	White
7	Ground 0V	Black

#### Dual output with backlighting

Pin	Function	Color
1		
2	Power supply: +VDC 5V	Red
3	LED +	Yellow
4	LED -	Blue
5	Output 2	Green
6	Output 1	White
7	Ground 0V	Black



Wiring harness with multiwire lead  
AWG28 - Length 140mm (5.51in)



# Mouser Electronics

Authorized Distributor

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[HRS202B1](#) [HRS219B0X1302](#)